

Abstract:

Title: Evaluation of Iatrogenic error in Root Canal Therapy Performed by Students of Ardabil Dental School 2015-2017.

Introduction: Root canal therapy such as other dental work is sometimes associated with unwanted and unpredictable conditions, which are referred to as the sum of these events during treatment. Understanding these incidents and its causes for continuing treatment and preventing repeat is necessary. This thesis also aims to Evaluation of Iatrogenic error in Root Canal Therapy Performed by Students of Ardabil Dental School 2015-2017.

Materials & Methods: A random sample of 507 records of root canal therapies performed by 5th – and 6th – year dental students in year 2015 and 2017 was investigated. For each tooth, four periapical radiographs including preoperative, working length, master cone, and obscuration were examined by two staffs of endodontic department using 2× lens magnification. Then the length and density of root fillings, as well as presence of procedural errors including extension of access cavity, ledge, apical perforation, apical zipping, fractured instrument, strip perforation, and missed canal were recorded. Finally the data were gathered and analyzed by SPSS software and Chi- Square test, Mann-Whitney, Kruskal-Wallis, and Fisher's exact test ($\alpha=0.05$).

Results: The results of this study showed that 62.1% of teeth had acceptable filling length, In 378 (74.6%) of the teeth, proper fill density and 25.4% of the rest were observed in unsatisfactory filling densities. The results also showed that (12%) of the teeth had technical errors, with the most technical error (4.3%) related to the apical zipping. Also, there was a significant relationship between the lengths of root filling with the student's academic year, but there was no significant correlation between technical error and filling density with the student's academic year. Also, there was a significant relationship between the length of filling with the distribution of teeth in maxilla and mandibles, however, there was no significant correlation between technical error and filling density with the distribution of teeth in maxilla and mandible.

Conclusion: Iatrogenic errors were more often in molar teeth and ledge was the most common one. Also there was a significant difference between 5th – and 6th – year students in the incidence of some of the iatrogenic errors.

Keywords: Technical errors; Dental students; Root canal therapy.